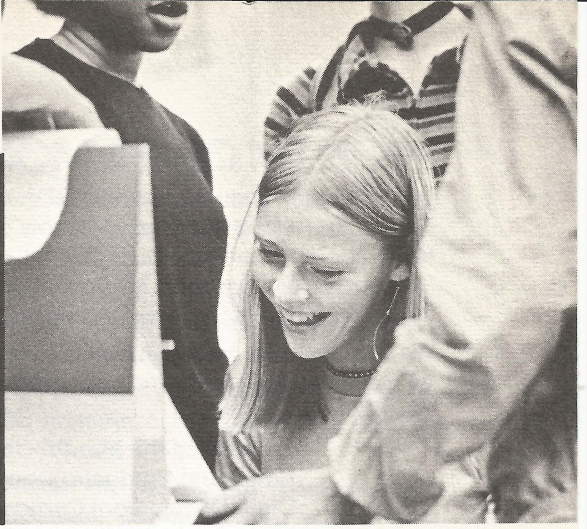
digital
146 Main Street
Maynard, Massachusetts 01754

edu

Number 5



HUNTINGTON II MATERIALS

We are proud to announce that Digital Equipment Corporation has been awarded the exclusive publishing rights for all the materials produced by the Huntington II Computer Project. The simulation modules which have been written by Huntington II will be published early this fall. POLUT, the first of these packages is available now.

POLUT is a biology/social studies oriented program which simulates the effect of wastes on our water resources. The POLUT package contains a Teacher's Guide, a Resource Manual and a Student Workbook. It's FREE! We'll give away one set of The POLUT Package to anyone writing on school letterhead. (Sorry, no quantity orders)

MORE MATERIALS

The Huntington I Materials and the BASIC Application Programs have been repackaged according to subject area. Now you won't have to pay for all those mathematics programs, if you really only need the ones for physics, (and vice versa). The titles and prices are listed below. Copies may be obtained by writing to:

Software Distribution Center
Digital Equipment Corporation
Maynard, Massachusetts 01754

Huntington I Application Programs	—Mathematics	2.00
	—Teacher Assistance	1.00
Huntington I Simulation Programs	—Physics	2.00
	—Chemistry	2.00
	—Biology	1.00
	—Social Studies	1.00
	—Earth Science	1.00
BASIC Application Programs	—Mathematics I	1.00
	—Mathematics II	1.00
	—Science	1.00
	—Business/Social Studies	1.00
	—Plotting	1.00

In case you haven't seen one, the new EDUSYSTEM BASIC REFERENCE CARD is now available for 25 cents. It's a handy pocket-sized booklet that capsulizes the BASIC instruction sets for all the EduSystems. It is ideal for quick reference to error messages and operating instructions, too. Order yours today. Your classes will love it!

CONTRIBUTIONS WANTED

We at EDU are looking for contributions of application techniques and materials for the vocational-technical school and college levels. EDU is meant for users at all educational levels, but *we need your help* to broaden its base. All contributions, long or short, edited or unedited are welcome.

We're also *seeking a Higher Education Editor* for EDU. All we can promise is rush deadlines every 6 weeks, an uncensored outlet for your most creative writing, no pay, and even less glory. Any volunteers?

Our current editors are:

Secondary School Editor—
Sally Richards Bower
Cumberland Valley School District
R.D. 1
Mechanicsburg, PA 17055

In-House Editor—
David H. Ahl
Education Products Group
Digital Equipment Corporation

TRADE SHOWS AND CONFERENCES

The Educational Products Group will be represented at the following trade shows and conferences over the next few months:

Sep 29-30	NCTM	Salt Lake City, Utah
Oct 5-7	NSTA	St. Louis, Mo
Oct 26-28	NCTM	Sioux Falls, SD
Oct 26-28	Canadian Education Showplace,	Toronto, Ontario
Nov 9-11	NCTM	Knoxville, TN
Nov 9-11	NSTA	New Orleans, LA
Nov 30-Dec 2	NSTA	San Diego, CA
Nov 29-Dec 2	DECUS	Anaheim, CA
Dec 5-7	FJCC	Anaheim, CA
Jan 12-15	AERA (Workshop)	Tampa, FL
Feb 24-28	AASA	Atlantic City, NJ
Feb 26-28	Jr. College Conf.,	Anaheim, CA

At most shows we will have an EduSystem 40; although that most impressive of all systems, RSTS-11, will visit some of these shows also. Come see us!

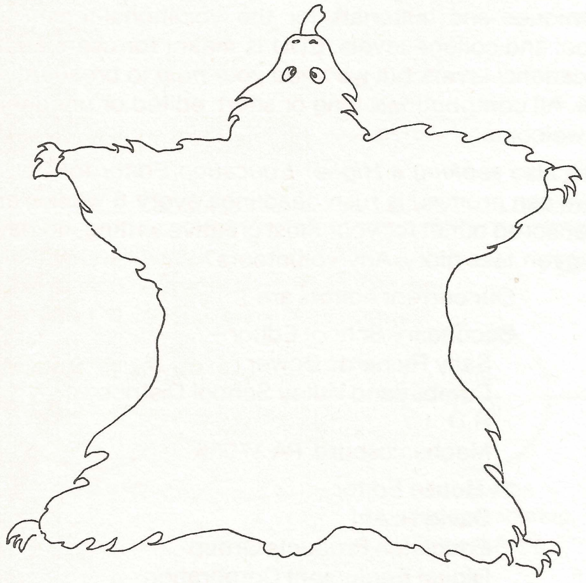
PROBLEM OF THE MONTH

The problem of the month—AREA OF A BEARSKIN RUG— is one of a hundred problems contained in a new text to be published by DEC this fall, entitled, *Advanced Problems For Computer Mathematics.* Watch for ordering information in the next issue of EDU.

We'll publish the best solutions to this problem in EDU #7. So get to work and send your programs by November 30, 1972 to:

Problem of the Month
Education Products Group (5-5)
Digital Equipment Corporation
Maynard, MA 01754

Suppose bearskin rugs were sold by area of floor coverage. This bearskin rug is only $3.95 per square foot! (Scale: 1/2 inch equals 1 foot.)



What is the area covered by the above bearskin rug? How much is the rug?

Write a program to compute the area of a bearskin rug. INPUT data? Whatever you feel is required.

FLIP CHIP MODULES

What house is complete without a genuine, operating flip chip module. If you haven't gotten a flip chip by now, send for one right away. After you've received it and used it, you will say, "How did I ever get along for such a long time without a Flip Chip?" Flip chips are cram full of resistors, integrated circuits, diodes and capacitors. They're also obsolete. Imagine the surprise on the faces of your friends when in the middle of nowhere you whip out your brand new Flip Chip. Wow! The girls will really admire you when they hear you have a real Flip Chip Module. Twenty-five cents each. Limit 4 to a customer. We ignore orders without money enclosed.

Education Products Group (5-5)
Digital Equipment Corp.
Maynard, MA 01754

GAMES COMPUTER BUMS PLAY

Problems for this issue come from *COMP Randomly* edited by Larry Siegel and Steve Wood. Their style is informative and refreshing! For a subscription, send $1.00 to:

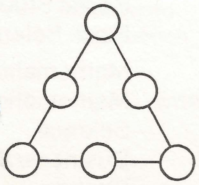
Computer Oriented Math Program
3052 Warrington Road
Cleveland, Ohio 44120

1. The ASCII decimal code for one letter is 6 more than the other letter. When the two decimal codes are multiplied together, the result is 100 times half the larger number plus 1000 plus the smaller number. Find the two numbers.
2. A minicomputer is twice as deep as it is high. When the height and depth are combined, the result is 20 more than the width. The surface area of the top of the computer is 192 more than the surface area of the back panel. Find the volume of the minicomputer.
3. A systems engineer could not remember when the computer caravan visited Los Angeles. He remembered that the number of the month was equal to the first day it would be in L.A. The month times the first day is ten more than the last day. The last day is equal to the month squared minus the month minus the first day minus one-half the month. Find the days the caravan was in Los Angeles.
4. One student can write a program to solve a problem in 5 hours. His teacher can write it in 12 hours and 20 minutes. How many hours will it take them to write the program if they work together?

MATHEMATICAL MIND BENDERS

The first three volumes in a continuing series of mathematical problems entitled *Puzzles, Problems, Posters, and Pastimes,* are now available from Houghton Mifflin. Volumes I, II, and III (Beginner, Intermediate and Advanced Level Respectively) each contain twenty-five problems for use in a variety of mathematics curriculum. Some of them, like the following, are ideal for computer solution.

Volume 2: Problem 20
Place the numbers from 1 to 6 in the circles in such a way that the sum of the three entries on each side of the triangle is the same.



To obtain complementary copies of these booklets, write to:

Puzzles
Houghton Mifflin Company, Dept. K
110 Tremont Street
Boston, Massachusetts 02107

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LIGHTS-CAMERA-ACTION

Something new has come to the Digital Film Loan Library...a new series of films and filmstrips have been assembled—specially for schools. Those items which are currently available for circulation include:

PROJECT SOLO produced by Project Solo, University of Pittsburgh

A documentary film which describes Project Solo, an experiment in regional computing in Secondary Schools. This film, which takes place right in the classroom, describes how this project uses the computer as a teaching tool. Students who have been intimately involved in the project comment on their experiences and the roles that the computer has played in their education. (Color, 1 hour)

HUNTINGTON II produced by the Huntington II Project, Polytechnic Institute of Brooklyn.

Two filmstrips with audio cassette describe the Huntington II Simulation Project. For several years this NSF funded project has been dedicated to the development of simulation materials for use in a variety of desciplines. This documentary provides a behind-the-scene view of planning, implementation and use of the simulation technique in the classroom. (Color, 1 hour)

(This filmstrip and cassette may also be purchased from the Film Library for $15)

The following films will be available later this fall:

My Computer Understands Me produced by Project Solo, University of Pittsburgh

This film explores the ways that the computer has strengthened thinking for students who have had the full power of computing made available to them. Statements are made concerning the effect of the computer on learning and the future directions of computers in education. *My Computer Understands Me* deals with the ways that these learning improvements reveal themselves in the real school world of today. (Color, 1 hour)

And Then It Happened Produced by Seven Oaks/Starbecker, Inc.

A Cannes Film Festival Award Nominee, this film deals with school bus safety. It is designed to demonstrate to young people, the ways that their conduct can contribute to or prevent accidents. This dramatic portroyal, improvised by junior high school students, is a valuable tool for motivating students to take serious responsibility for their actions. *And Then It Happened* is an ideal film for parents and bus drivers too. (Color, 18 minutes)

Personalized System of Instruction: An Alternative produced by the University of Nebraska

This film presents the learning climate in a PSI classroom as an alternative to the traditional approach to instruction. PSI (or the Keller Plan) is self-paced mastery oriented, and student tutored for junior and college level construction. It has been tested at the high school level, as well, and covers a wide range of disciplines. Suitable for high school and college instructors, students of education and administrators. (Black and white, 13½ minutes).

All of these films may be borrowed at no charge from the library by contacting:

Mr. Steve Kallis
Film Library, 6-B2
Digital Equipment Corporation
Maynard, MA 01754

Make your reservations today!

BIT-BASIC INFORMATION FOR TEACHERS

One of the most active regional secondary school and junior college computer user groups, BIT holds three Friday-evening meetings a year. Meetings generally have a formal presentation by a noted educator followed by three or four informal panel discussions centering on various instructional techniques or applications.

For information on joining BIT, contact:

Nathaniel Bates
Belmont Hill School
Prospect Street
Belmont, MA

This fall BIT is offering a course on Numerical Methods taught by Gerry Hornik of Digital and Boston University. The course will cover interpolation, integration, approximation, polynomial roots, matrices, inversion, curve fitting and Chebyshev polynomials.

SCHOOLS IN THE NEWS

Reprinted from National Lampoon, April, 1972.

In a further effort to achieve racial balance in schools, the Department of Health, Education, and Welfare has announced that 245 pupils from the Henry David Thoreau High School in Houlton, Maine, whose population of 8,289 is entirely white, will be airbussed on a Douglas DC 10 to the John C. Breckenridge High School in Tennant, Mississippi, a delta cotton town with an 89-percent-black population. One hundred ninety-six black first- and second-graders from Breckenridge High School will make the daily trip to Houlton on a second DC 10.

PORTACOM– THE PORTABLE TERMINAL

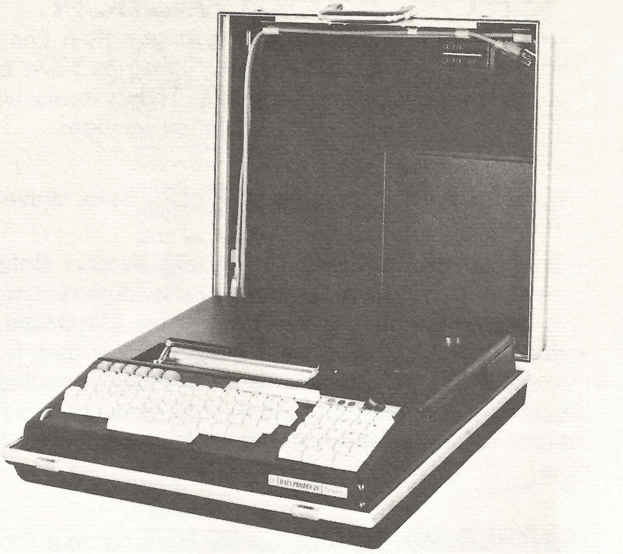
How many times have you wished that your teletype was just a little easier to move from one room to another? If only it were a little bit smaller, a tiny bit lighter, a whole lot more compact?

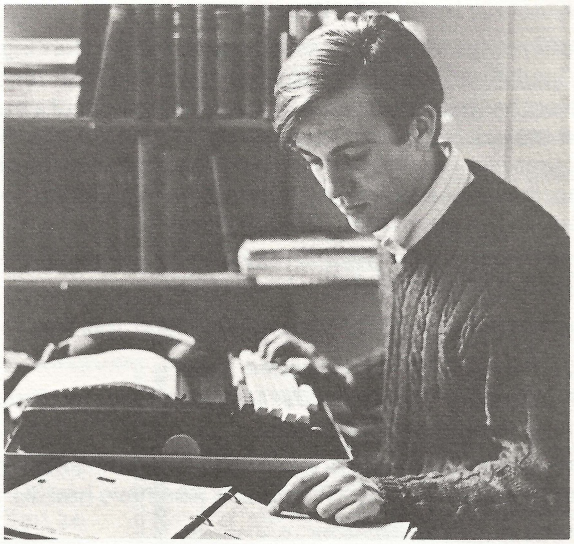
Well, now there is PortaCom—The Portable Terminal from Data Products. PortaCom is a *teletype-compatible terminal* keyboard that is *compact* and *easily transportable.* It weighs less than 30 pounds, and it's compact enough to fit under a desk (or even an airplane seat!). PortaCom operates at 10 characters per second and prints 80 character width hard copy (with up to *3* carbons!). In addition to the standard teletype keyboard keys, it also has a *Numeric Key Cluster.* The key cluster contains all the numbers and mathematical symbols that you'll need to use PortaCom just like a calculator. So it's perfect for the Immediate Mode of EduSystem 5, 10 and 20 BASIC! It also comes fully equipped with a *built-in acoustic coupler*—so PortaCom can be used anywhere where there's a telephone near by. (That means that your EduSystem could be called from the library, the dormitory or even from the Dean's Office!).

PortaCom is quiet, durable and inexpensive, too. No more deafening teletype noise to interfere with a presentation. And PortaCom is priced at a low *$1,650.*

Data Products manufactures a wide variety of telecommunications products. There are 32 convenient service locations in the Continental United States. Their sales representatives are anxious to tell you more about PortaCom. For more information contact:

Mr. Richard M. Samose
Data Products
17 Amelia Place
Stamford, CT 06904
(203) 325-4161





REMOTE TERMINALS

We are often asked by our customers what modem to order from Bell Telephone to hook to the computer side of the system. It is a:

DATA SET 103A—TYPE

For all Digital Multi-user and Time-Sharing Systems, you should specify the following options:

A. Without Automatic Calling Unit
B. Automatic Answer—Key Controlled
C. Terminal will not respond to disconnect
D. Terminal will not initiate disconnect
E. Mark Hold

At the terminal end of the system, you need a standard dial telephone, a terminal (teletype LT33-CC or LT33-DC or cathode ray tube DECterminal VT05-B) with an acoustic coupler, DF01-A.

TERMINAL RENTALS

In EDU #4 we announced that DEC-compatible teletypes could be rented directly from Western Union at a cost of $60 per month ($65 for teletype with acoustic coupler). Many schools have already taken advantage of these rentals and are very pleased with the service.

For more information, contact:

John Powers
Western Union Data Services
49 Walnut Street
Welesley, MA 02181
(617) 237-2556

THE RIO SYMPOSIUM ON COMPUTER EDUCATION FOR DEVELOPING COUNTRIES

At the Rio Symposium, held August 6-12 in Rio de Janeiro, Brazil, Digital was represented by Dave Ahl of the Education Products Group and Dave Dodge of Digital's office in Rio.

The symposium exposed a cross section of ideas from both developed and developing nations. Although forseen by the conference organizers, it was apparent that more problems were uncovered during the symposium than were solved. Nevertheless, most participants undoubtedly left with a number of new ideas and approaches.

Several dominant ideas seemed apparent. First many developing nations are very anxious to teach students *about* computers so that they may use them as a tool, rather than being ready to use computers as a tool in to enhance and improve the instruction of other subjects. That is, computer science and computer orientation are of greater interest than algorithmic problem solving in mathematics or simulations in science.

Second, it seemed almost assumed, probably erroneously, that computers equal data processing. Hence, much emphasis was placed on large machines, training a support staff, and managing the facility. Minicomputers were seen mainly in industrial control applications.

Third, running counter to the large computer trend, the French ministry of education (not a developing nation, of course) has decided to place a minicomputer time-sharing system for 8 to 16 terminals in 300 secondary schools throughout France. The cost with a 256k disk and 8 CRT terminals per system is expected to be less than $70,000 per system. The language to be used is a conversational "sub-super set" of ALGOL. A most important part of the program is training teachers both formally and through correspondence courses before the systems are installed. The issue of teacher training was a major one with many nations at the Symposium; most agreed that a combination of formal and in-service training was needed.

The full proceedings are available (for an exorbitant price) from:

Rio Datacentro
Pontificia Universidade Catolica
Rua Marques de Sao Vicente, 209-ZC-20
Rio de Janeiro, Brazil

> *"The ideas should be born in the students' mind and the teacher should act only as midwife."*
> *Socrates*

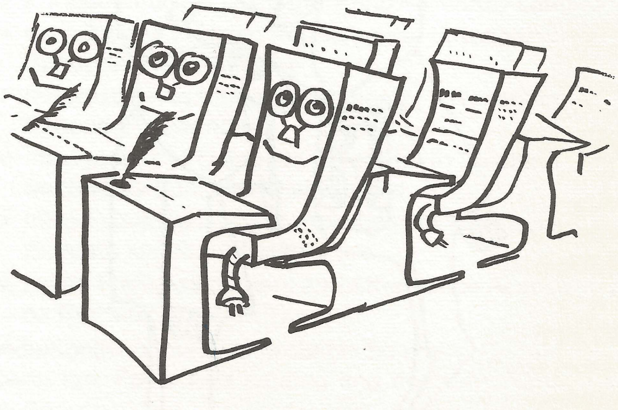
CONTEST WINNERS

Every contest has a winner. But wait! The SECOND ANNUAL WIN A COMPUTER CONTEST has not one, but SIX big winners. Here they are:

WINNER	*CATEGORY*
David Corbishley Concord High School Wilmington, Delaware	Color Photo
Stephen Barber Newmarket High School Newmarket, Ontario	B&W Photo
Barbara Allison Fox Chapel High School Pittsburgh, PA	Color Poster
Dennis Koga Vassar College Poughkeepsie, NY	Color Poster
Donelle Dadigan Le Lycee Francais De Los Angeles Los Angeles, California	B&W Poster
Mark Neville University of Tennessee Knoxville, Tennessee	B&W Poster

Each of the contest winner's sponsor schools will receive a DEC EduSystem for two weeks during the 1972-73 school year. In addition, all six of the lucky winners will receive one of our antique computer modules, a winner's certificate, two special EduSystem posters *and* a surprise magnetic game.

Congratulations to the big SIX. Our thanks to all those students for the hundreds of entrees that didn't reach the winner's circle. Watch for the Third Annual Contest Rules—to be announced!



Mark Neville's contest entry.

MANUALS–QUANTITY DISCOUNTS

Many DEC manuals and other publications are often used as class texts. In these instances, DEC is pleased to offer a special educational discount as follows:

Quantity	*Discount*
Less than 1 case	none
1-4 cases	25%
5-9 cases	30%
10 cases	35%
11 or more cases	40%

Case quantities for the most popular manuals are shown below. On all other manuals, a quantity of 30 manuals is considered a case.

The discount is applicable only for the quantity of alike manuals in a single order. Different manuals cannot be counted together to reach a discount level and quantities are not cumulative over several orders.

Total cases in a single order *are* cumulative.

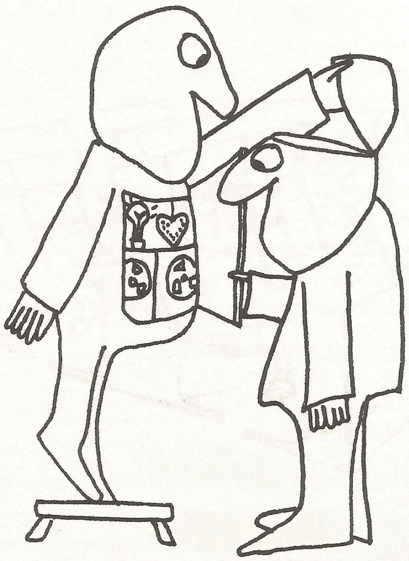
Goods ordered and shipped may not be returned for credit.

Minimum order $10.00. Payment must be enclosed on orders less than $25.00.

The *Huntington Computer Project Materials* are covered in a different discount; see the Huntington materials brochure and order blank.

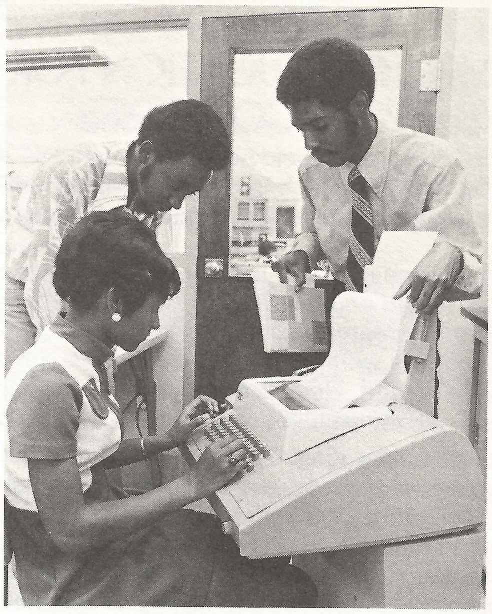
Case quantities:

Manual	*Quantity*
Small Computer Handbook	60
Introduction to Programming	50
Programming Languages	70



CLEAR OUT YOUR COBWEBS
with the "Computer in the Classroom" Era.

This cartoon was submitted by F. R. Yates, Electrical Engineering Department, University of Tennessee, Knoxville, Tennessee.



FOR COMPUTER CONSUMERS...

Still in the thinking stage about buying or leasing a computer? Maybe the final decision is close at hand—or maybe it's still just an idea. Whatever the case, we'd like to recommend that *before* you decide or go *one* step further—get your hands on a recent study entitled "Development of Specifications for a Low Cost Computer System for Secondary Schools", by George Kleiner of Stevens Institute of Technology.

This report is the result of research which was subsidized by a U. S. Office of Education Grant. Mr. Kleiner discusses Time-Sharing Services, Minicomputers and selected observations on education computer systems.

For your copy write to:

George Kleiner
Sci-Tronic Systems
Box 947
New York, NY 10008

This makes an ideal companion report to the two previous NSF and OE sponsored studies recommended on these pages:

Nevison, John M. and Kurtz, Thomas E., *The Computer as Pupil: The Dartmouth Secondary School Project.* Final Report, Oct. 1970. Kiewit Computation Center, Dartmouth College, Hanover, N.H. 03775.

Darby, C. A., Jr., Korotkin, A. L., Romashko, T., *Survey of Computing Activities in Secondary Schools.* Oct. 1970. American Institutes for Research, 8555 Sixteenth Street, Silver Spring, Maryland 20910.

And while we're at it, let us recommend another booklet intended for people who are concerned with the planning of computer courses for in-service or formal training of teachers. The title is "Computer Education for Teachers in Secondary Schools. An Outline Guide." It's available for 75 cents from:

AFIPS Headquarters
210 Summit Avenue
Montvale, N.J. 07645

INTRODUCING THE SUPERCALCULATOR... EDUSYSTEM 5

EduSystem 5 is the least expensive, most powerful starting computer system ever offered by any computer manufacturer!

EduSystem 5 operates in either of two modes:

1. Calculator
2. BASIC-speaking computer

As a calculator, it is necessary only to type the algebraic expression of the problem you wish solved, for example:

You type	: 5 * 6-9
Edu5 replies	21
You type	: "SIDE=" SQR(5↑2+7↑2)
Edu5 replies	SIDE=8.602325
You type	P1=3.14159 : P1*4↑2
Edu5 replies	50.26544
You type	: P1 * 3↑2
Edu5 replies	13.27431

As a computer, EduSystem 5 may be programmed in Dartmouth-standard BASIC just like larger systems. Full function set, error diagnostics, multiple statements on one line (!) and many other enhancements.

AND EduSystem 5 is fully expandable to any of the larger EduSystems!

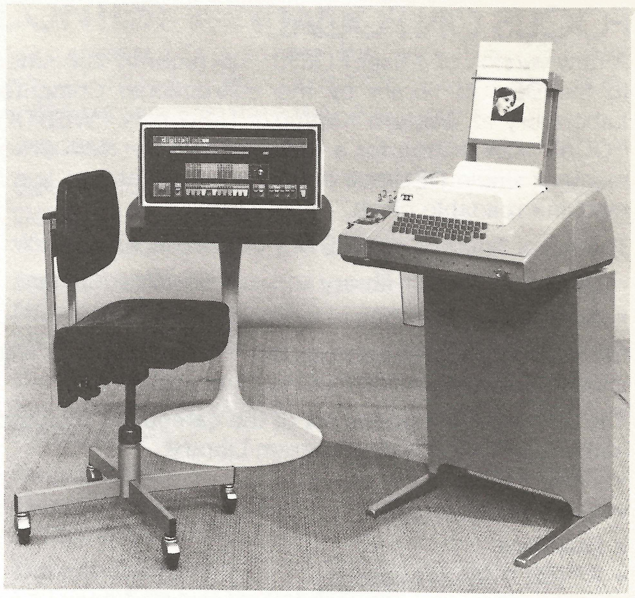
EduSystem 5 consists of a PDP8/F computer with 4,096-word memory, teletype with paper tape reader and punch, BASIC software, manual, and self-teaching BASIC primer. *Price is only $5,790!* Lease cost is $128/month; contract maintenance, $80/month.

FOR DECSYSTEM-10 OWNERS

Occasionally we at EDU have been accused of favoring small computers at the expense of huge machines usually found at college computer centers or timesharing bureaus. This is probably a just accusation since we strongly believe that students should be comfortable around computers and not fear them—and the best way to overcome any potential fear is for kids to get their hands right on the computer, not just a terminal.

However, we strongly agree with Fred Weingarten at the Claremont Colleges when he writes, "the mini and the large regional center both have a role to play in education." A mini is great for orientation, most secondary and many college courses in math and science, but when it comes to handling huge masses of data or calculations running into the millions, it sure is desirable to have a DECsystem-10 to call upon.

We'd be glad to carry news and articles of interest to DECsystem-10 and large RSTS-11 owners. All you have to do is submit them! (see article on CONTRIBUTIONS WANTED.)



IN-SERVICE TRAINING

Project LOCAL of Westwood, Massachusetts has published a new catalog for in-service courses in Computer-Oriented Education for Fall, 1972. All courses, which vary in length from one to ten sessions, are open to interested members of the educational community. A minimal tuition fee will be charged for those attendees outside the Project LOCAL Membership. Course locations vary between the Project LOCAL Office and the member high schools. The following list includes the courses which will be held this fall:

- The Potential of the Computer in the Instructional Process
- Introduction to Programming in the BASIC Language
- Teaching Advanced Programming Topics
- Selecting and Acquiring Computer and Communication Facilities for Instruction
- Fundamentals of Computers and Assembly Language
- Introduction to Using the Computer in Teaching Secondary Mathematics
- Introduction to Using the Computer in Teaching Secondary Science
- Introduction to Using the Computer in Teaching Secondary School Social Studies
- Introduction to Computerized Master Schedule Building and Pupil Assignment
- Doing Pupil Assignment and Attendance Accounting on Rented Computer Time

Additional courses will probably be offered in the spring term too. For a free catalog and application materials write to:

Project LOCAL Inc.
200 Nathan Street
Westwood, Massachusetts 02090
(617) 326-3050

FOCUS ON FOCAL

A new version of 4-user FOCAL was recently submitted to the DECUS library by the Instructional Computer Laboratory at Western Kentucky University. "WESTKY FOCAL" was written for a PDP8/I computer with 8K of memory, single DECtape drive, up to 4 teletypes and a machine readable clock.

The major features of WESTKY FOCAL include:

- DECtape program library access from all terminals
- Automatic accounting of terminal usage

Perhaps of greatest interest, this FOCAL package also includes more than *100* FOCAL library programs.

The following is a partial list of the categories included in the WESTKY FOCAL Program Library:

- Curve Fitting
- Finite Mathematics
- Statistics
- FOCAL Tutorial Lessons
- Geology
- Numerical Solutions of Differential Equations
- Chemistry
- Engineering
- Non-numerical Applications
- Physics
- Arithmetic Drill

A more detailed description of WESTKY FOCAL and the library of programs may be obtained by writing to:

DECUS Librarian, (3-5)
Digital Equipment Corporation
Maynard, Massachusetts

EDU-BOOT

All of the standard EduSystem configurations now come equipped with a standard hardware item called an Automatic Hardware Bootstrap Loader. Unfortunately, all of the existing manuals don't contain bootstrap operating instructions. We've been busy over the summer preparing surprises for you in the manuals department (it's a secret we'll be announcing shortly)—but in the interim, EDU will be our vehicle for passing this information on to you. Also, our Educational and Software Specialists have been provided with the same information should you have any further questions.

If you have a hardware bootstrap (MI8-EF or MI8-EG), the following operating instructions replace that portion of the loading routine which includes the RIM loader, in existing user's guides.

A. Loading from *PAPER TAPE* (high or low speed):
   1. Set SR to 5356
   2. Flip "SW" key on console panel.

B. Loading from DISC (DF32 or RF08)
   1. Set SR to 5350
   2. Flip "SW" key on console panel.

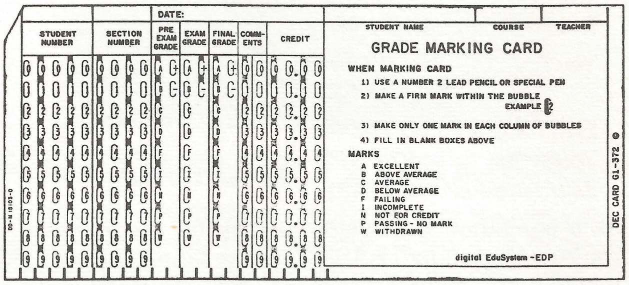
C. Loading from *DECTAPE* (TC01 or TC08)
   1. Set SR to 0600
   2. Flip "SW" switch on console panel.

EDUSYSTEM 30 AND 40 USERS

We have some boxes of out-of-date mark sense cards from the EduSystem-EDP Project. These early design cards are available for $5 plus shipping per box (2,000 cards). This is a great opportunity to give your OS/8 programming classes some materials to work with.

Please specify whether you want Grade Marking or Attendance Accounting cards.

If you would like information on EduSystem-EDP and how your school can automate its Student Records, Attendance Accounting, Mark Reporting and Student Scheduling, save money and have the most exciting instructional system around—call your local DEC Educational Specialist.



DATE:

STUDENT NUMBER
SECTION NUMBER
PRE EXAM GRADE
EXAM GRADE
FINAL GRADE
COMMENTS
CREDIT

STUDENT NAME
COURSE
TEACHER

GRADE MARKING CARD

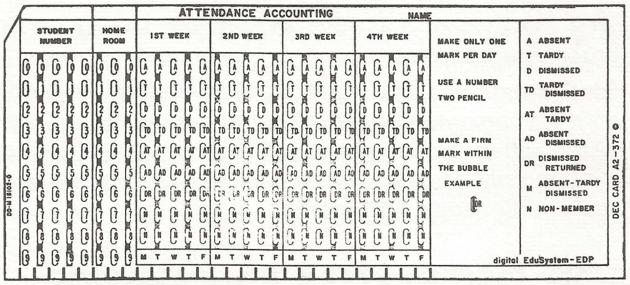
WHEN MARKING CARD
1) USE A NUMBER 2 LEAD PENCIL OR SPECIAL PEN
2) MAKE A FIRM MARK WITHIN THE BUBBLE EXAMPLE
3) MAKE ONLY ONE MARK IN EACH COLUMN OF BUBBLES
4) FILL IN BLANK BOXES ABOVE

MARKS
A EXCELLENT
B ABOVE AVERAGE
C AVERAGE
D BELOW AVERAGE
F FAILING
I INCOMPLETE
N NOT FOR CREDIT
P PASSING - NO MARK
W WITHDRAWN

digital EduSystem -EDP

DEC CARD G1-372 ©

DD-N 15103-0



ATTENDANCE ACCOUNTING
NAME

STUDENT NUMBER
HOME ROOM
1ST WEEK
2ND WEEK
3RD WEEK
4TH WEEK

M T W T F

MAKE ONLY ONE MARK PER DAY

USE A NUMBER TWO PENCIL

MAKE A FIRM MARK WITHIN THE BUBBLE EXAMPLE

A ABSENT
T TARDY
D DISMISSED
TD TARDY DISMISSED
AT ABSENT TARDY
AD ABSENT DISMISSED
DR DISMISSED RETURNED
M ABSENT-TARDY DISMISSED
N NON-MEMBER

digital EduSystem-EDP

DEC CARD A2-372 ©

DD-N 15102-0

ROUNDOFF ERRORS

On small BASIC-speaking computers, roundoff errors occasionally crop up. That is, an answer of .2 appearing as .199999. This happens because certain decimal fractions, like .2, convert to repeating binary fractions in the computer. Repeating fractions have to be truncated, and it is in this truncation that accuracy is lost. Repetitive use of the truncated fraction causes a cumulative loss, and eventually significance is lost from the result.

This "weakness" is not unique to small systems. Actually, it is present to a greater or lesser extent in all software that does floating point manipulation. More sophisticated software does a better job of handling this problem but it is core-expensive.

To avoid roundoff errors, choose fractions that are powers of 2 for repetitive operations. Use of fractions like .5, .25, .125, .0625, etc., will yield "nice" results because they can be represented in the machine with no truncation loss.

INTRODUCING EDUSYSTEM 15 "THE TIME SHARING TERMINAL ELIMINATOR"

EduSystem 15 is a complete computer system with program storage on DECtape, a rich version of BASIC in a compact, easy-to-use inexpensive package.

Software Features:

- Enhanced version of BASIC
- Program storage on DECtape using SAVE, UNSAVE, NEW, OLD, NAME, and CATALOG
- Program chaining from one program to another
- Single-character alphanumeric strings and arrays of strings
- Temporary data files on DECtape using WRITE and READ
- Multiple statements per line for long (300 lines) programs
- Privileged commands for program and file security
- Complete set of error diagnostics
- Ability to support
  - Card Reader for BATCH
  - High-Speed Paper Tape Reader and Punch
  - Line Printer

EduSystem 15 consists of a PDP8/F computer with 4,096 word memory, single OMNIBUS DECtape, 256 word DECtape loader/control, memory extension control, Teletype with paper tape reader and punch, BASIC software and manuals.

Price is only $9,890! Lease cost is $218 per month; contract maintenance, $117 per month.

BOOK REVIEWS

Computer Programming in BASIC by Joseph P. Pavlovich, Shady Side Academy and Thomas E. Tahan, M.I.T.

This text provides the most thorough treatment of the BASIC Language available in textbook form today. The popularity of the BASIC Language rests primarily on its simplicity and ease of use. The authors show that, in spite of this simplicity, it can be used to treat various sophisticated and complex problems. In this book, BASIC emerges as a language as powerful as FORTRAN, yet much simpler to learn and use. The authors problem-solving approach makes the text ideal for an introductory course in computer programming at the high school or first-year college level. 1971, 368 pages, $6.95, paperback.

Holden-Day, Inc.
500 Sansome Street
San Francisco, CA 94111

Calculus: A Computer-Oriented Presentation, Volumes I and II and *Teachers Commentary* by Warren Stenberg, University of Minnesota and Robert Walker, Cornell University.

This text deals with all of the material covered in an introductory college calculus course, however, it assumes that a computer is available to further explore those topics which lend themselves to computer treatment. For example, the text shows that while certain expressions cannot be easily integrated to reach a solution, a computerized monte-carlo or area under a curve approach may be more appropriate than attempting to find the exact solution. 1972, $9 paperback (for set of Volumes I and II), $5 for 3-ring punched teachers commentary.

Division of Instructional Research
and Service
Room 4 Kellum
Florida State University
Tallahassee, Florida 32306

WRITTEN BY COMPUTERS FOR COMPUTERS

Computers were recently "honored" by getting their own magazine entitled *PRINTOUT,* a section in the May, 1971 issue of the *National Lampoon.* The excerpts below are reprinted with express permission of National Lampoon.

HARDWARE IN THE NEWS

BURROUGHS 900/05/43004

The New York Giants football team has announced that Burroughs 900/05 Serial 43004, play designer and evaluator, has been traded to the Dallas Cowboys football team for 5 logic units, 3 position code converters and a differential collator. The Burroughs system was 4th in the league in offensive programming last year with a ground-gaining play-percentage of 43.5. The unit operated previously as a designer of labyrinth paths for mouse intelligence-testing research at Tulane University.

REMINGTON UV600/2123

Remington UV600 Serial 2123 has been signed by MGM Studios to a one-year contract to produce 45,000 screenplays. 2123 began operation in show business as a film library retreival system, then became an on-line stage unit when a master system controlling lights and sound suffered a temporary shutdown during a live broadcast. The Remington unit later entered the creative field when 3 random readouts from periodic function checks of film library memory discs were produced as major motion pictures.

(Personals)

Siemens 2550 wants ride to Calif. Fit in trunk. Will pay with knowledge. Box 254.

Free-lance Burroughs 880. You name it, I'll compute it. No questions asked. Box 65.

9½-year old computer, some parts damaged, needs repair, looking for not-too-demanding job with company in Miami area. Box 91.

5000 laughs a second! NCR 400-60 can turn out gags at speed of light. Used by many comedians. Socko! Box 114.

Interested in time-sharing with sophisticated systems? Write in complete confidence. Enclose tapes. Box 516.

IBM 460 series computer, well-programmed, seeks input/output with late-model hardware. Object, permanent tie-in. Tapes on request. Box 18.

Friden 250-80 Serial 18493773. Come back. My data was faulty. Box 55.

Remington 7000 will share room in Cleveland with any in 7000 class. Box 90.

Will trade my parallel crosshair cursor for ADS synchronous & asynchronous models. Good condition. Box 109.

I need data to process! You name it, I'll run it. Low rates. Box 43.

GE990-40 Serial 452114. We will meet again. I promise you. RCA 50-900 Serial 834050. Box 22.

The Computer Taste Treat!
DATA-BITS

Little bite-size chips of silicone, lightly salted with germanium crystals with just a touch of magnetism. And each one contains a tempting tidbit of data — like the capital of Delaware, or how many times around the earth the cables of the George Washington Bridge will stretch!

Good in real-time, down-time, anytime. Get some today!

"DO RUN LOG COMPLEX F DATAMASS STOP?"

Whether you're planning a trip or you just want to increase your capacity with Booletz, you can learn a new language in just minutes!

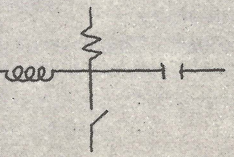
FORTRAN
COBOL
ALGOL
JOVIAL
SIMSCRIPT
QUICKTRAN
PL/1
SNOBOL
OMNITAB

Every language instruction set comes with 6 magnetic tape discs and 10,000 vocabulary punch cards.

Don't get left out or passed over because you can't communicate.

BOOLETZ

The Red Circuit



Give Generously

RAW INPUT!

Are we descended from typewriters? Which came first, the data or the program? If an infinite number of humans sat at an infinite number of adding machines for an infinite time, would they solve the four-body problem? The answers to these and other troubling questions have puzzled concerned thinkers for countless hours. Now there is a link-up of advanced hardware probing deep into matters heretofore clouded by error, faulty programming and unresolved variables. Join today, and learn the decades-old secrets of electronic mastery and binary power. Send for free tape.

Rosocomputers (FORTRAN)
2334 Electron Way
Urbana, Ill. 90856
Not a closed system.

Have nanoseconds of fun and 10^9 laughs with these novelty items!

- Gag phone bills that read "You owe $00.00. Please remit at once to avoid service interruption." Many others, too. Include them in your regular monthly billing run and wait for the fun!
- Fake electric cord and wall socket set so you can look "unplugged." Watch the look on their faces when you start up "all by yourself"!
- Pre-printed readout sheets of selected passages from *Hamlet*, Beethoven's *Fifth Symphony*, and *Moby Dick*. Slip one into your output hopper and see what happens.
- 3-pound bag of assorted gears, diodes, circuits, switches, relays, etc. Empty on the floor for big laughs!
- Console decals: "To Err Is Human"; "Out of Order"; "A Friend of Mine Has a File on You"; lots more!

Send for free catalog. Computer Novelties, 435 Mosholu Parkway, Brooklyn, N.Y. 10199

PERSONALIZED PUNCH CARDS

Add that unmistakable, personal touch to all your output. Your manufacturer, Serial number, Bit-Rate, Mode and Function Quality printed in your choice of optical scan or magnetic characters on durable, standard-size cards.

PERSONALITY PRODUCTS CO.
10206 Brace Blvd.,
Milwaukee, Wisc. 40466

DECUS EDUCATION SPECIAL INTEREST GROUP

Since its first meeting not quite a year ago at the DECUS convention in San Francisco, EduSig has come a long way. Meetings were held at the NCTM Conventions in Atlantic City and Chicago, at Spring DECUS in Boston and at the Conference on computers in the Undergraduate curricula in Atlanta. The meetings at Spring DECUS and CCUC were particularly lively and well-attended.

The next meeting is at the Fall DECUS Convention, November 29-December 3, Royal Inn of Anaheim, Anaheim, CA 92802. In addition to formal papers, a panel disucssion will be held on the topic:

AFTER THE COMPUTER HAS BEEN IN A YEAR,
THEN WHAT?

The following is a summary of the EduSig meeting at CCUC in Atlantic June 13, 1972. Dr. Donald Harmar of Georgia Tech chaired the meeting.

A separate newsletter for EduSystem owners catering specifically to secondary school and beginning college instructional applications was discussed. It will be edited, produced, and mailed by:

Mr. Chase Ambler
The Asheville School
Asheville, North Carolina 28801

It was proposed that DECUS start to handle non-program material such as curriculum guides, problem sets, etc. Also that DECUSCOPE have a "scrapbook" page for this type of contribution. Upon discussion, it appeared that EDU probably was a better vehicle for this type of material since DECUSCOPE is not always distributed to the people at an installation involved with educational applications. It was agreed that EDU and DECUS should work together more closely.

A strong minority feeling was expressed that Digital should implement a timesharing FORTRAN IV on the PDP-11. This prompted a spirited discussion on the merits of FORTRAN, several versions of BASIC, FOCAL and APL somewhat reminiscence of the standing-room-only BASIC vs FOCAL session at Spring DECUS. (I'm not sure, but I don't think any conclusion was reached—Ed.)

It was suggested that EduSig place a representative on the Int'l BASIC Standards Committee. Digital already has a representative on the Committee and as no one volunteered for the job, the idea was dropped.

A poll of attendees was taken on computers, applications and languages being used. Users represented PDP-8, 9, 10, 11, 12 and 15 owners. The most popular applications were algorithmic problem solving and teaching about computers followed by simulations and data reduction. BASIC was the most widely used language followed by FORTRAN, FOCAL and Assembly.

See you all at the next meeting in Anaheim!

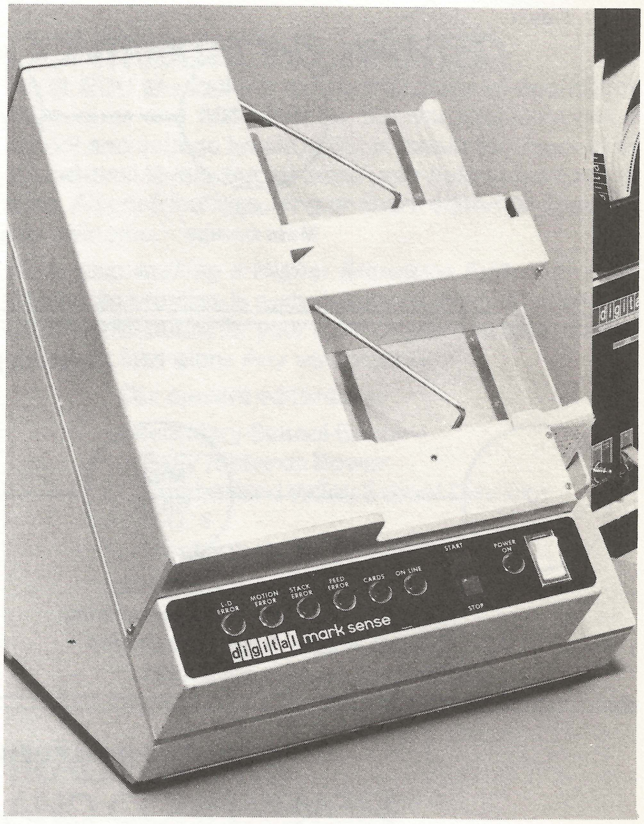
BACK TO SCHOOL SALE

CM8-E Optical Mark and Punched card readers. Read 200 cards per minute. Original price $4,900. *Sale price $3,500!*

Combine this reader with an EduSystem 15 (see article) and you have a BATCH BASIC system for an unbelievable $13,290!

BATCH BASIC on EduSystem 30 has been a best seller at around $20,000; imagine a BATCH BASIC system (just slightly slower) for only $13,290!

Or hang the card reader on your TSS/8, EduSystem 25 (making it an EduSystem 40) or figure out your own application. It's a steal at $3,500.



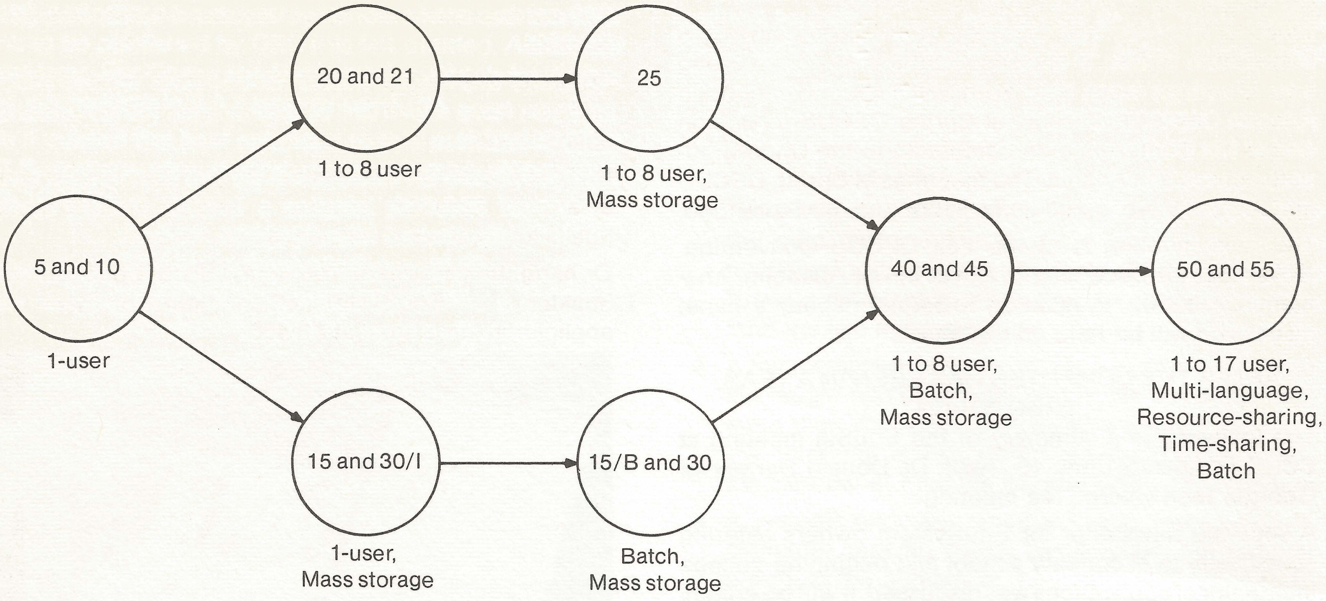
DECUS BASIC CATALOG

A new catalog of BASIC programs has been prepared by the DECUS library. It contains capsule descriptions on a wealth of new programs, many of which are collected in booklet by subject area—Mathematics (3 booklets), Plotting, Physics, Chemistry, Biology, Social Studies, Data Processing, Games, etc.

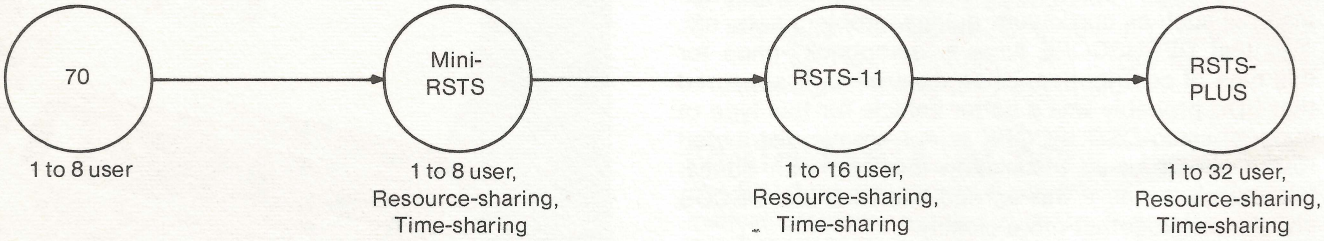
When writing, ask for the DECUS Program Library Catalog for BASIC. It's free from:

DECUS Librarian
Digital Equipment Computer Users Society
Maynard, MA 01754

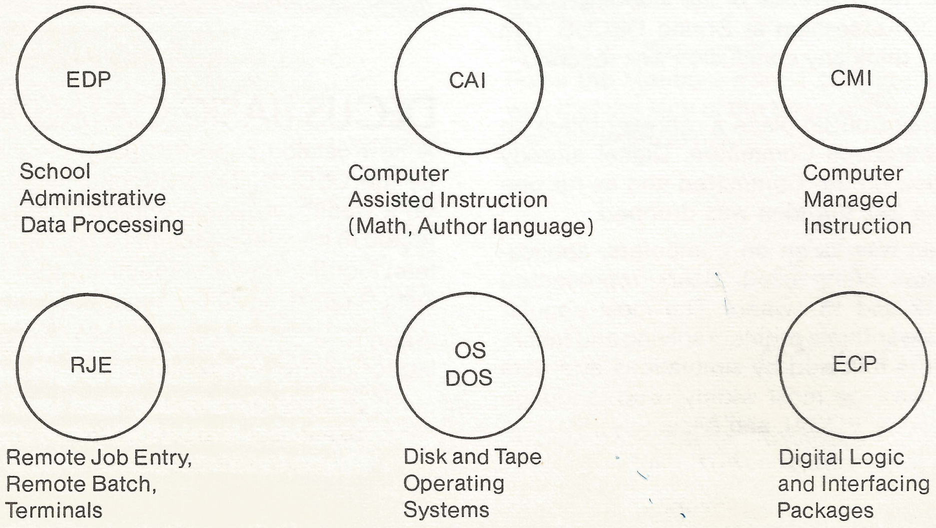
PDP-8 Based EduSystems



PDP-11 Based Systems



Other PDP-8 and PDP-11 Based Educational Systems



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